

Study Programme: Master academic studies of forensics			
Course Unit Title: Road accidents reconstruction			
Course Unit Code: SF-01			
Name of Lecturer(s): Associate Professor Zoran Papić, Full Professor Goran Stojiljković			
Type and Level of Studies: Master Academic Studies			
Course Status (compulsory/elective): Elective			
Semester (winter/summer): Summer			
Language of instruction: English			
Mode of course unit delivery (face-to-face/distance learning): Face-to-face			
Number of ECTS Allocated: 6			
Prerequisites: None			
Course Aims: Introducing with problems related to the investigation of road accidents. Acquiring knowledge in the process of various types of road accidents reconstruction, applying knowledge in the field of traffic engineering, traffic traumatology and application of modern software tools.			
Learning Outcomes: After acquiring knowledge, the student is able to: <ol style="list-style-type: none"> 1. applies modern methods in the forensic research process and road accidents reconstruction; 2. correctly interprets the mechanism of the road accident participants injury; 3. applies software tools for road accidents forensic analysis; 4. independently participates in the process of road accidents reconstruction; 5. written and oral summarizes the conclusions of the conducted analysis to the court, legal or natural entity, depending on that who requested the expertise 			
Syllabus: <i>Theory</i> Vehicles kinematics. Vehicle dynamics. Determining the place of impact. Methods and procedures for determining a vehicle collision speed. Time-distance analysis. Kinematics and kinetics of impact between vehicles and pedestrians. Characteristics of traffic traumatism (body kinetics, forces, types of injuries). Rolling over the pedestrian by the vehicles. Reconstruction of the accidents with the participation of two-wheel vehicles. Reconstruction of the accidents with the participation of commercial vehicles. Vehicle crashes. Vehicle rollover accidents. Determination of the passengers positions in the vehicle at the time of the accident. Application of software for road accident simulation and reconstruction (PC CRASH, PC RECT, VIRTUAL CRASH, PHOTOMODELER, ...) <i>Practice</i> Application of theoretical knowledge for problems solving in the field of research and reconstruction of road accidents. Case studies. Practical work on computers with the application of specialized software packages for road accidents simulation and reconstruction.			
Required Reading: 4. Van Kirk, D., Vehicular Accident Investigation and Reconstruction, CRC Press, Washington, DC, 2001. 5. Wach, W. : PC-CRASH, Handbook, Institute of Forensic Research Publishers, Krakow 2001. 6. Burg, H., Moser, A., Handbook of Accident Reconstruction, DSD - Dr Steffan Datentechnik GmbH, Linz, Austria, 2013			
Weekly Contact Hours: 5(75)		Lectures: 3(45)	
Practical work: 2(30)			
Teaching Methods: Lectures, experimental exercises and consultations.			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points
Active class participation	10	written exam	30
Practical work	10	oral exam	20
Seminar(s)	20	practical exam	10